BLIND MAN'S GUIDE

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HOUSE FOR THE BLIND

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UNION OIL COMPANY

OF CALIFORNIA

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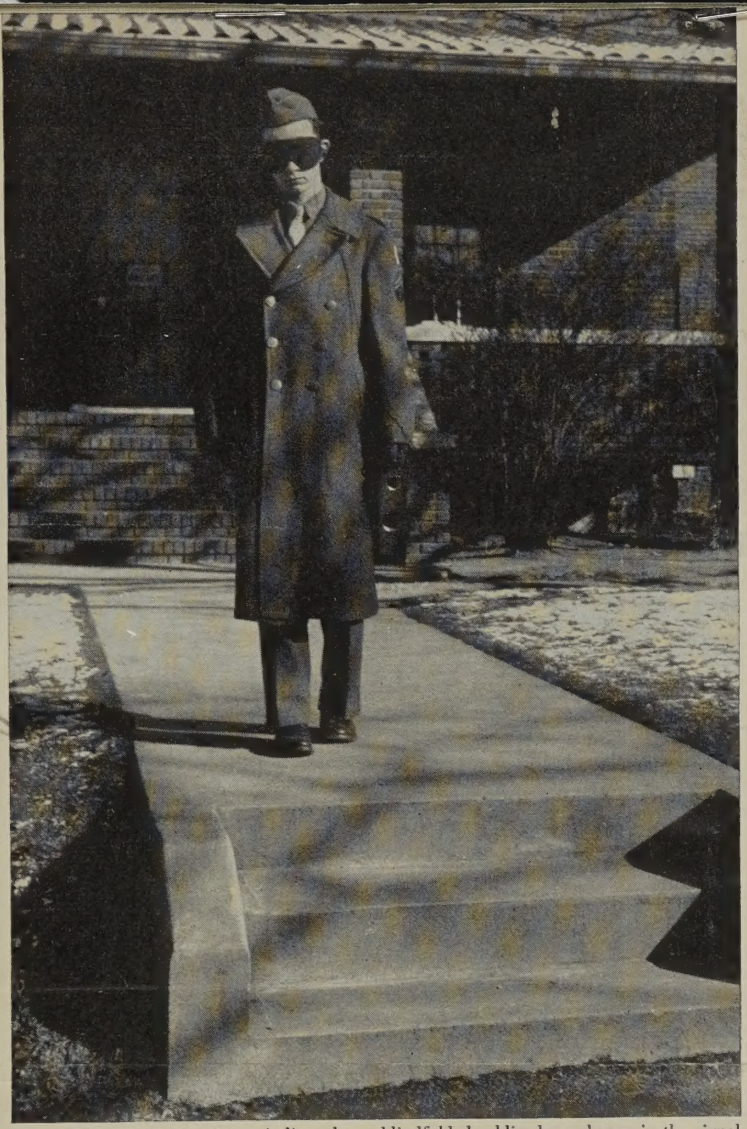
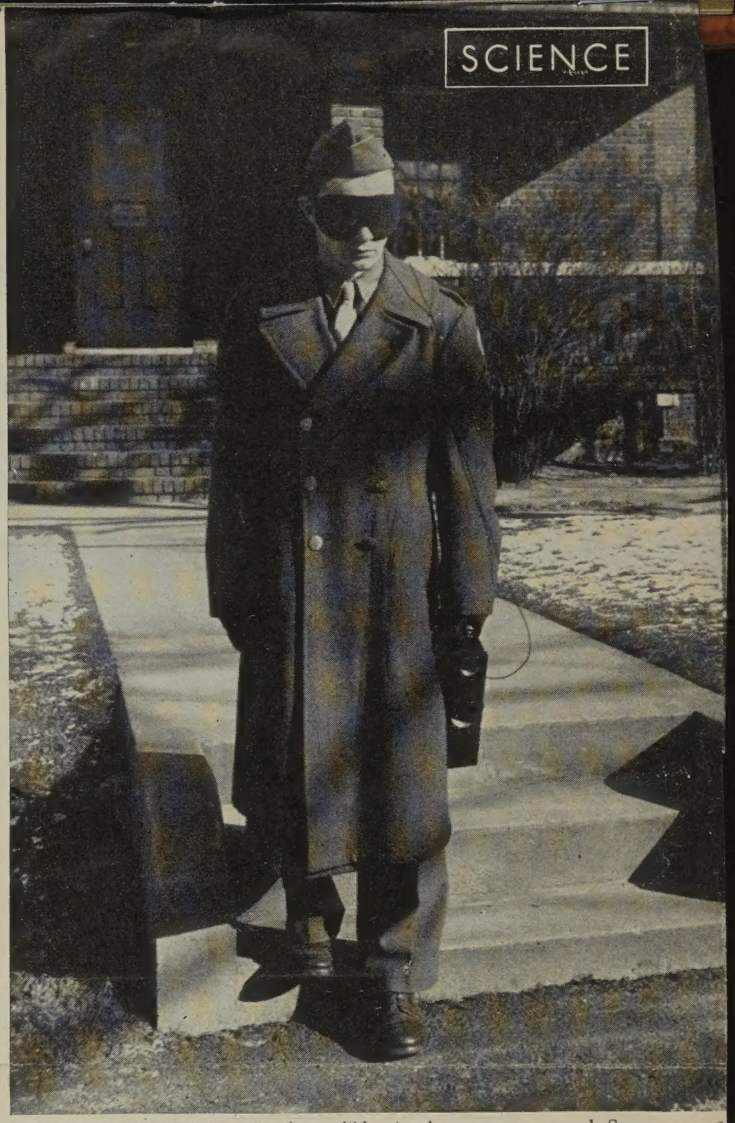


STEPS GOING DOWN are indicated to a blindfolded soldier by a change in the signal from his set. New sound now tells him that distance to the ground ahead has increased.



ON LEVEL GROUND again, the audible signal returns to normal. Steps down involve the exact reverse of the principle diagramed below for steps up.

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BLIND MAN'S GUIDE

New range finder guides the steps of the blind with a beam of light

Life, March 11, 1946.

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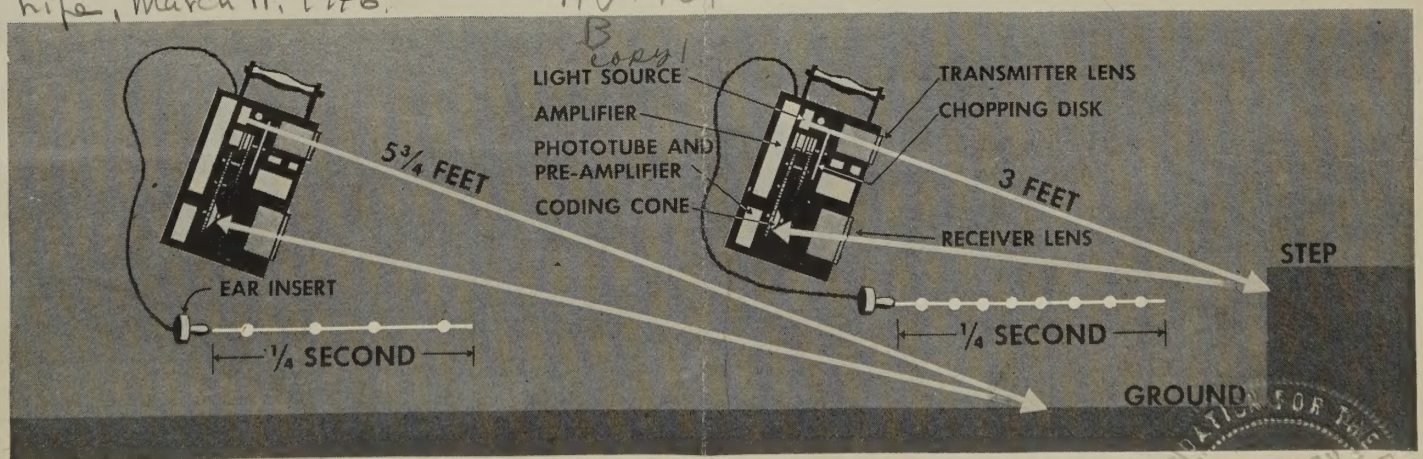
The technology of using echoes to determine the location of objects, which in the war was used as radar, is being used now in a potentially valuable aid to war-blinded U.S. soldiers. A portable "blind man's radar," designed by the U.S. Army Signal Corps at the request of the Surgeon General, uses light instead of radio waves to detect and give the range of obstacles from 3 to 30 feet away.

Carried by a blind man, the range-finder set scans the ground ahead with a beam of light. Part of the light is reflected from ground to the set where it produces an audible signal, heard by earphones, whose rate of repetition indicates the distance to the ground. When a person, building or curb intercepts the beam, the rate changes to give the range of the obstacle (*see diagram below*).

So far, experimental sets have been made and tested on blind soldiers. The results have been encouraging but much work still remains to be done before a practical device will be available.



RANGE FINDER DIAGRAM shows how device works in normal walking. Light source, an ordinary flashlight bulb, sends beam through a chopping disk which breaks beam up into 500 cycle-light, thus giving it a pattern which will enable set to distinguish it from other light. On level ground (*above*) light is reflected at narrow angle, is focused near center of revolving perforated coding cone. At this point, cone is perforated to break up light to produce four audible tones each quarter second. When step is ahead (*right*) light is reflected at wider angle, is focused farther out at edge of cone. Here perforations are arranged to double both rate of interruption and tones.

CONTINUED ON NEXT PAGE

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STEPS IN THE PATH of a blindfolded soldier produce a change in the audible signal (*see diagram p. 121*). The signal rate varies with distance to steps.

BUILDING is the next obstacle confronting the blindfolded soldier. His set tells him just how far away building is, thus letting him know when to turn.

APPROACHING PERSON is another common obstacle. Warned in time, blindfolded soldier stops and patiently waits for the other person to pass him.

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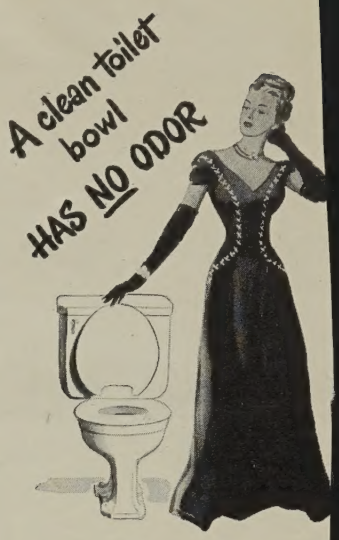

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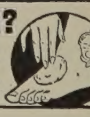

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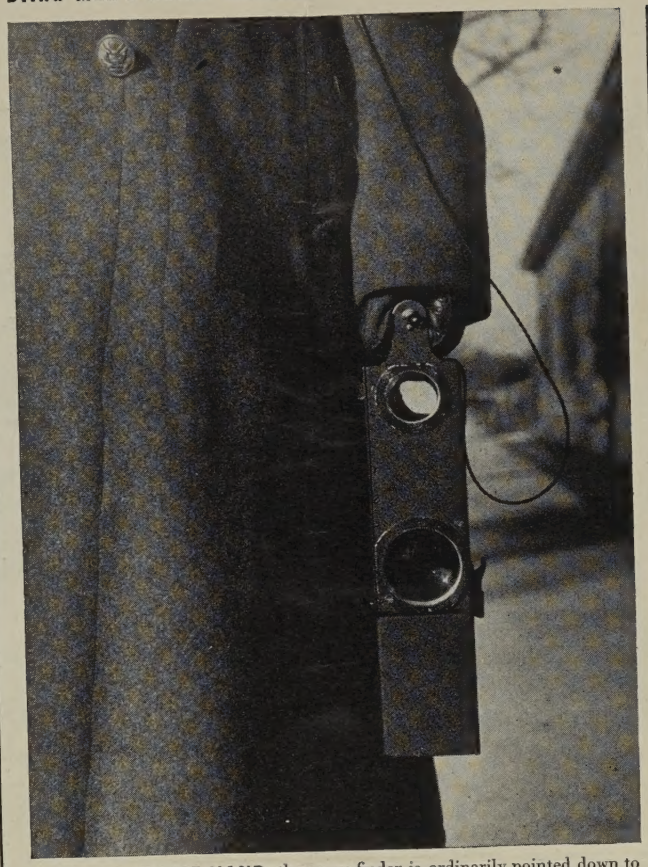

CARRIED IN THE HAND, the range finder is ordinarily pointed down to scan the ground. Here it is shown head-on so that the light beam is visible at the top. The set weighs nine pounds. The cord (*above*) leads to the ear insert.

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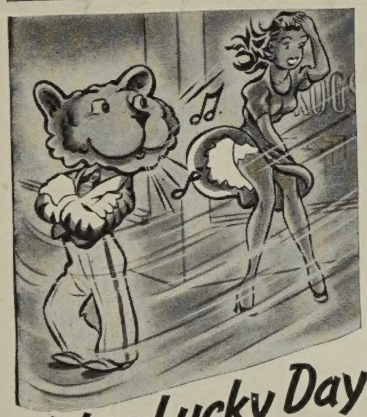

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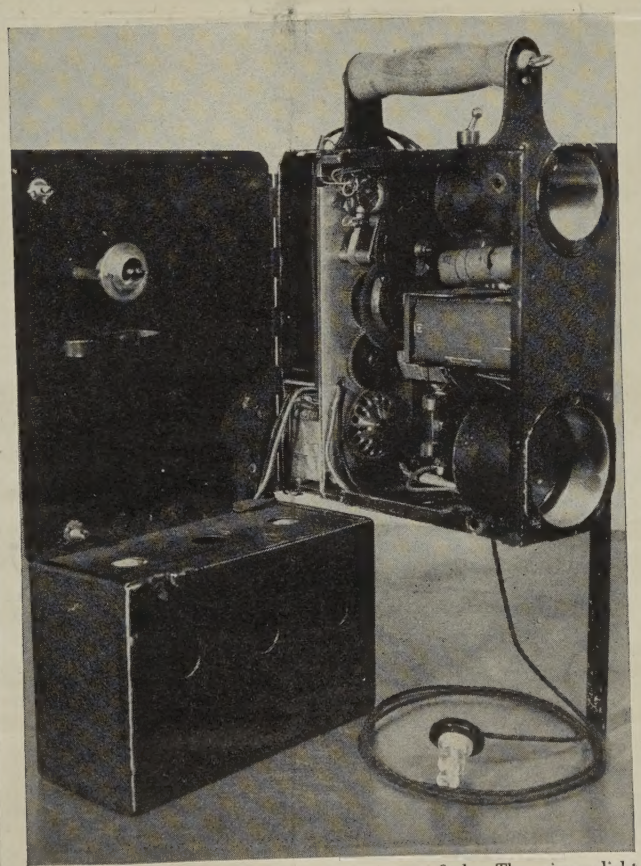

AN OPEN SET reveals the inner parts of range finder. The primary light beam emerges from the upper circular opening and the reflected light enters set through lower. Perforated disk behind lower opening is the coding cone.

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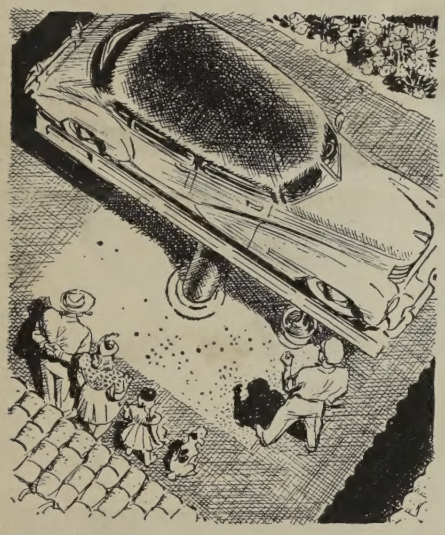

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2. During the war, however, Union developed an oil that would last a good deal longer than 1,000 miles. In fact, it had to be changed only *two times a year*. A few months after V-J day we were in a position to offer this *New Triton* to the motoring public.

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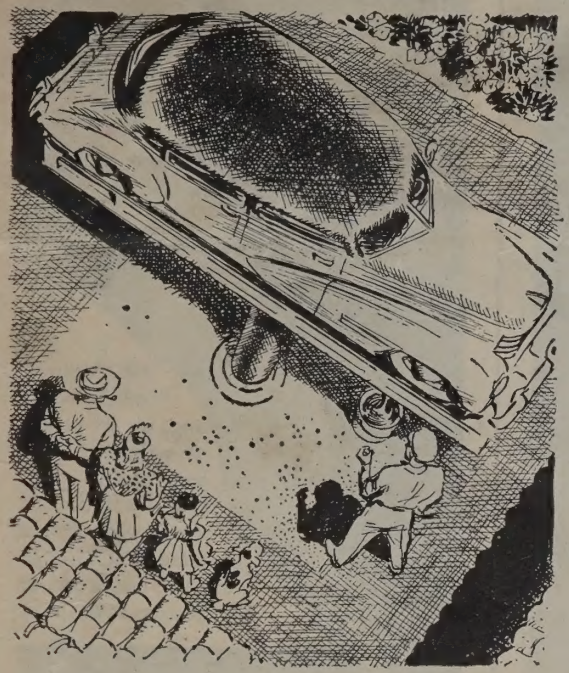

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